

Mineral Industry Surveys

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CHROMIUM IN JULY 2006

On the basis of gross weight, consumption of chromium ferroalloys and metal in July 2006 increased 4% compared with consumption in June 2006, according to the U.S. Geological Survey.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. Government stockpile inventory of chromium materials in July 2006, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of July 2006, and U.S. foreign trade data for selected chromium-containing materials in June 2006.

Update

The Defense National Stockpile Center announced that 2,495 metric tons (t) of ferrochromium (2,449 t of high-carbon ferrochromium and 45 t of low-carbon ferrochromium) was sold in August at a value of \$2.1 million or \$0.382 per pound gross weight (Defense National Stockpile Center, 2006).

Reference Cited

Defense National Stockpile Center, 2006, Stockpile announces ferrochromium sales for August 2006: Defense National Stockpile Center, News Release DNSC-06-2796, September 5, 1 p.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS¹

(Metric tons, gross weight)

	2005	2006				
	January-December ²	May	June	Second quarter ²	July	January-July ²
Production:						
Stainless steel production ³	2,240,000	231,000	218,000	668,000	190,000	1,450,000 ⁴
Components of U.S. supply:						
Stainless steel scrap receipts	731,000	58,600	55,100	180,000	NA	346,000 ⁵
Stainless steel scrap consumption	1,060,000	87,200	79,700	265,000	NA	508,000 ⁵
Imports for consumption:						
Chromite ore	165,000	17,100	2,000	31,100	NA	56,600 ⁵
Ferrochromium:						
More than 4% carbon	398,000	22,500	56,200	128,000	NA	203,000 ⁵
More than 0.5%, but not more than 3% carbon	3,530	10	--	10	NA	10 ⁵
Not more than 0.5% carbon	43,000	3,300	3,250	10,300	NA	16,400 ⁵
Ferrochromium silicon	33,700	1,160	3,920	9,550	NA	17,600 ⁵
Total ferroalloy imports	478,000	26,900	63,400	148,000	NA	237,000 ⁵
Chromium metal ⁶	11,000	761	916	2,400	NA	4,710 ⁵
Stainless steel	770,000	79,100	72,200	219,000	NA	417,000 ⁵
Stainless steel scrap	111,000	17,100	20,000	51,800	NA	82,500 ⁵
Distribution of U.S. supply:						
Consumption, industry, chromium ferroalloys and metal	417,000	36,600	34,100	108,000	35,600	250,000
Exports:						
Chromite ore	42,600	1,080	8,160	9,560	NA	12,500 ⁵
Chromium ferroalloys:						
High-carbon ferrochromium	30,700	1,590	4,210	6,300	NA	8,040 ⁵
Low-carbon ferrochromium	5,460	115	1,990	2,220	NA	3,050 ⁵
Ferrochromium silicon	147	--	104	195	NA	202 ⁵
Total ferroalloy exports	36,300	1,710	6,300	8,720	NA	11,300 ⁵
Chromium metal	1,020	58	66	167	NA	462 ⁵
Stainless steel	371,000	43,100	31,300	103,000	NA	221,000 ⁵
Stainless steel scrap	585,000	45,500	38,700	118,000	NA	248,000 ⁵
Stocks at end of period:						
Consumer, industry, chromium ferroalloys and metal	XX	12,000	12,500	XX	11,200	XX
Government stockpile:						
Chromium ferroalloys	XX	411,000	408,000	XX	406,000	XX
Chromium metal	XX	5,280	5,280	XX	5,280	XX

NA Not available. XX Not applicable. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data.

³Data on stainless steel production reported by American Iron and Steel Institute; monthly, quarterly, and year-to-date production of stainless and heat-resisting raw steel.

⁴Includes revised data that are not broken out by specific month.

⁵Includes January to June data; July data not available.

⁶Includes waste and scrap and other.

TABLE 2
U.S. REPORTED CONSUMPTION AND STOCKS
OF CHROMIUM PRODUCTS IN 2006^{1,2}

(Metric tons, gross weight unless otherwise noted)

	June	July	January- July ³
Consumption by end use:			
Alloy uses:			
Iron alloys:			
Steel:			
Carbon steel	298	293	2,130
High-strength low-alloy steel	523	523	3,760
Stainless and heat-resisting steel	29,200	30,700	216,000
Full alloy steel	1,700 ^r	1,700	11,700
Electrical steel	W	W	W
Tool steel	400	396	2,860
Unspecified steel	W	W	W
Cast irons	W	W	W
Superalloys	967	936	6,350
Other alloys ⁴	51	54	367
Total	34,100	35,600	250,000
Total, chromium content	20,300	20,900	147,000
Consumption by material:			
Low-carbon ferrochromium	1,870 ^r	1,890	13,300
High-carbon ferrochromium	28,700	29,900	212,000
Ferrochromium silicon	2,960	3,310	21,200
Chromium metal	497	466	3,110
Chromite ore	W	W	W
Chromium-aluminum alloy	22	23	156
Other chromium materials	W	W	W
Total	34,100	35,600	250,000
Total, chromium content	20,300	20,900	147,000
Consumer stocks:			
Low-carbon ferrochromium	1,990 ^r	2,030	XX
High-carbon ferrochromium	9,140 ^r	7,910	XX
Ferrochromium silicon	1,050	952	XX
Chromium metal	217	220	XX
Chromite ore	W	W	XX
Chromium-aluminum alloy	22	22	XX
Other chromium materials	W	W	XX
Total	12,500	11,200	XX
Total, chromium content	7,530	6,740	XX

^rRevised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes estimates.

³May include revised data.

⁴Includes welding and alloy hard-facing rods and materials; wear- and corrosion-resistant alloys; and aluminum, copper, magnetic, nickel, and other alloys.

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY OF
CHROMIUM MATERIALS^{1,2}

(Metric tons)

Period	Chromium ferroalloys		Chromium metal
	High-carbon ferro-chromium	Low-carbon ferro-chromium	
2005:			
July	328,000	180,000	6,190
August	324,000	187,000 ³	6,190
September	327,000 ³	176,000	6,210 ³
October	323,000	175,000	6,190
November	320,000	174,000	6,190
December	318,000	171,000	6,190
2006:			
January	312,000	169,000	6,190
February	308,000	166,000	5,590
March	276,000	145,000	5,590
April	275,000	145,000	5,590
May	271,000	139,000	5,280
June	270,000	139,000	5,280
July	270,000	137,000	5,280

¹Data are rounded to no more than three significant digits.

²These Government stocks are reported by the Defense National Stockpile Center in Inventory of Stockpile Materials R-1, which reports uncommitted inventory. Uncommitted inventory is that inventory for which there is no sales contract. Committed inventory is that inventory for which there is a sales contract, however, the material has not yet been shipped. For chromium materials, the R-1 report includes chromium materials that (1) meet specifications and are held in excess of goal and (2) do not meet specifications and are held in excess of goal. The R-1 report excludes chromium materials that are committed and awaiting shipment.

³The increase resulted from the reclassification of physical inventory from committed to uncommitted. It did not result from the addition of chromium materials to the stockpile.

Source: Defense National Stockpile Center.

TABLE 4
U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL¹

Period	Chromite ore		Chromium ferroalloys ²			Chromium metal ³	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
2005:							
June	516	\$190	776	486	\$1,010	91	\$1,520
July	1,670	697	24,800	16,600	23,800	51	781
August	6,060	1,420	584	356	789	130	1,560
September	7,760	1,320	577	356	680	115	1,940
October	1,320	600	577	355	828	39	1,410
November	835	435	1,310	877	1,490	120	2,120
December	515	203	671	408	923	125	1,930
January-December	42,600	9,940	36,300	23,700	38,900	1,020	16,900
2006:							
January	462	199	1,100	676	1,300	69	1,600
February	1,830	344	739	447	893	85	2,100
March	618	285	733	447	936	140	2,350
April	331	163	708	403	982	43	1,370
May	1,080	277	1,710	937	1,670	58	1,440
June	8,160	825	6,300	3,750	5,660	66	1,380
January-June	12,500	2,090	11,300	6,660	11,500	462	10,200

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes low-, medium-, and high-carbon ferrochromium and ferrochromium silicon.

³Includes chromium metal waste and scrap and unwrought powders.

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL¹

(Metric tons)

	2005 January- December ²	2006			
		April	May	June	January- June ²
Chromite ore:					
Not more than 40%:					
Gross weight	36	--	--	--	--
Chromic oxide content	11	--	--	--	--
More than 40% but less than 46% chromic oxide:					
Gross weight	29,700	94	--	48	592
Chromic oxide content	13,700	42	--	22	268
46% or more chromic oxide:					
Gross weight	135,000	11,900	17,100	1,960	56,000
Chromic oxide content	63,600	7,160	8,300	929	33,500
Total, all grades:					
Gross weight	165,000	12,000	17,100	2,000	56,600
Chromic oxide content	77,300	7,200	8,300	951	33,800
Ferrochromium:					
Low-carbon: ³					
Not more than 0.5%:					
Gross weight	43,000	3,730	3,300	3,250	16,400
Chromium content	29,300	2,500	2,270	2,190	11,200
More than 0.5% but not more than 3%:					
Gross weight	3,530	--	10	--	10
Chromium content	2,300	--	7	--	7
Total, low-carbon:					
Gross weight	46,600	3,730	3,310	3,250	16,400
Chromium content	31,600	2,500	2,280	2,190	11,300
High-carbon: ⁴					
Gross weight	398,000	49,400	22,500	56,200	203,000
Chromium content	232,000	29,100	12,600	31,500	119,000
Total, all grades:					
Gross weight	444,000	53,200	25,800	59,500	219,000
Chromium content	264,000	31,600	14,900	33,700	131,000
Chromium metal:					
Unwrought powders	1,060	123	89	65	542
Waste and scrap	63	--	21	11	55
Other than waste and scrap and unwrought powders	9,830	596	651	840	4,110
Total, all grades	11,000	719	761	916	4,710

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data.

³Ferrochromium containing not more than 3% carbon.

⁴Ferrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2006, BY GRADE AND BY COUNTRY¹

Grade and country	June			January-June ²		
	Gross weight (metric tons)	Chromium content (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value ³ (thousands)
High-carbon ferrochromium:⁴						
Kazakhstan	13,600	9,490	\$12,600	45,700	31,800	\$36,500
Russia	2,980	1,960	2,340	25,600	16,600	16,200
South Africa	35,500	17,500	20,400	102,000	53,500	60,900
Sweden	--	--	--	500	334	544
Tajikistan	21	14	28	23	16	31
Zimbabwe	4,120	2,470	3,360	29,100	17,100	20,400
Total	56,200	31,500	38,600	203,000	119,000	135,000
Low-carbon ferrochromium:⁵						
More than 0.5% but not more than 3%, China	--	--	--	10	7	16
Not more than 0.5% carbon:						
Brazil	--	--	--	19	14	47
China	--	--	--	356	237	582
Germany	360	252	821	3,080	2,150	6,880
Japan	260	182	897	1,820	1,260	5,630
Kazakhstan	500	345	663	1,580	1,090	2,070
Mexico	--	--	--	20	13	65
Russia	1,480	1,050	2,200	7,710	5,370	10,400
South Africa	650	356	377	1,800	1,060	1,410
Sweden	--	--	--	19	14	68
Turkey	--	--	--	40	25	108
Total	3,250	2,190	4,950	16,400	11,200	27,300
All grades:						
Brazil	--	--	--	19	14	47
China	--	--	--	366	244	597
Germany	360	252	821	3,080	2,150	6,880
Japan	260	182	897	1,820	1,260	5,630
Kazakhstan	14,100	9,840	13,200	47,300	32,900	38,600
Mexico	--	--	--	20	13	65
Russia	4,470	3,010	4,540	33,300	22,000	26,600
South Africa	36,200	17,900	20,700	104,000	54,600	62,300
Sweden	--	--	--	519	348	612
Tajikistan	21	14	28	23	16	31
Turkey	--	--	--	40	25	108
Zimbabwe	4,120	2,470	3,360	29,100	17,100	20,400
Total	59,500	33,700	43,600	219,000	131,000	162,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data.

³Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

⁴Ferrochromium containing more than 4% carbon.

⁵Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2006, BY GRADE AND BY COUNTRY¹

Grade and country	June		January-June ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Unwrought powders:				
China	--	--	136	\$1,550
France	--	--	1	10
Germany	1	\$5	24	284
Japan	4	143	96	4,020
Netherlands	--	--	6	31
Russia	61	358	258	2,800
Spain	--	--	19	96
Sweden	--	--	1	4
United Kingdom	(4)	33	1	223
Total	65	539	542	9,020
Waste and scrap:				
Germany	1	48	4	128
Japan	--	--	10	150
Mexico	--	--	1	6
Singapore	10	83	39	290
Taiwan	--	--	1	29
Total	11	131	55	603
Other than waste and scrap and unwrought powders:				
China	145	1,280	996	7,010
France	201	1,680	1,200	10,500
Germany	--	--	22	299
Japan	--	--	1	13
Netherlands	--	--	12	68
Russia	418	2,440	1,070	7,280
Spain	--	--	23	111
United Kingdom	76	602	798	6,010
Total	840	6,000	4,110	31,300
All grades:				
China	145	1,280	1,130	8,560
France	201	1,680	1,200	10,500
Germany	2	53	50	711
Japan	4	143	107	4,180
Mexico	--	--	1	6
Netherlands	--	--	18	99
Russia	478	2,800	1,330	10,100
Singapore	10	83	39	290
Spain	--	--	41	207
Sweden	--	--	1	4
Taiwan	--	--	1	29
United Kingdom	76	635	799	6,240
Total	916	6,670	4,710	40,900

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data.

³Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

⁴Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 8
U.S. TRADE OF STAINLESS STEEL, BY PRODUCT, IN 2006¹

Stainless steel product	June		January-June	
	Gross weight (metric tons)	Value ² (thousands)	Gross weight (metric tons)	Value ² (thousands)
Exports:				
Ingot	1,350	\$6,210	5,460	\$26,100
Flat-rolled (width > 600 mm)	14,500	41,100	83,300	218,000
Flat-rolled (width < 600 mm)	7,440	36,300	51,000	201,000
Bars and rods in irregular coils	1,090	4,000	5,560	23,100
Other bars and rods	3,220	19,200	16,400	101,000
Wire	786	5,240	3,590	25,700
Tubes, pipes, hollow profiles	2,940	21,500	55,700	154,000
Total	31,300	134,000	221,000	748,000
Stainless steel scrap	38,700	59,700	248,000	331,000
Grand total	70,100	193,000	469,000	1,080,000
Imports:				
Ingot	12,000	35,000	67,000	184,000
Flat-rolled (width > 600 mm)	33,400	88,300	194,000	474,000
Flat-rolled (width < 600 mm)	4,090	16,800	21,800	83,300
Bars and rods in irregular coils	1,850	5,320	13,300	38,100
Other bars and rods	8,740	35,700	46,000	184,000
Wire	3,680	16,500	21,700	95,100
Tubes, pipes, hollow profiles	8,480	50,900	53,500	314,000
Total	72,200	249,000	417,000	1,370,000
Stainless steel scrap	20,000	23,300	82,500	89,000
Grand total	92,200	272,000	499,000	1,460,000

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Export value is free alongside ship (f.a.s.). Import value is Customs import value, which generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.